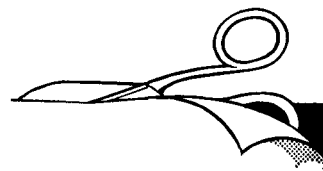


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	<i>Page</i>	<i>Reprint price</i>
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BRADSHAW, P.

Turbulent Boundary Layers

Much of a designer's time is spent in estimating or avoiding the effects of turbulent boundary layers. Although crude, boundary layer calculation methods suffice for predicting profile drag in the absence of separation, the prediction or avoidance of separation is a much more delicate business. Intuition and experience, supported by tunnel tests, are more trustworthy than the best theories. Many hours of computer time could be bought for the cost of a tunnel model, but the difficulty is that one does not know what equations to solve. Solving the complete Navier-Stokes equations for the fluctuating flow at each instant of time would be too much for the biggest computer, but taking time-averages throws away information about the turbulent shear stress.

Empirical theories of the behaviour of turbulent shear stress have now reached the stage of using actual measurements of the statistics of the turbulence, and it seems likely that both the theorist's and the aircraft designer's intuition can now benefit directly from a study of the way turbulent eddies behave. The lecture studies the processes by which the energy of the turbulent fluctuations is produced, transported and dissipated.

ENGLAND, K. J.

A Hydraulic Transmission System for Powered Wind-Tunnel Models

A hydraulic transmission system is evaluated as a drive for wind-tunnel model propellers and fans. The system compares favourably with existing electrical transmission systems and appears to have other applications in wind-tunnel work.

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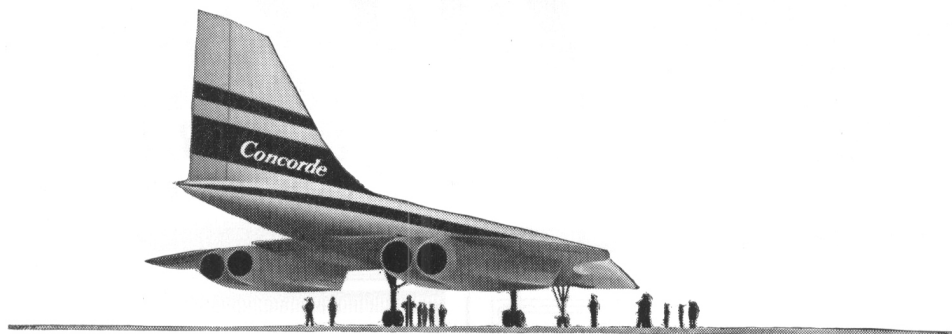
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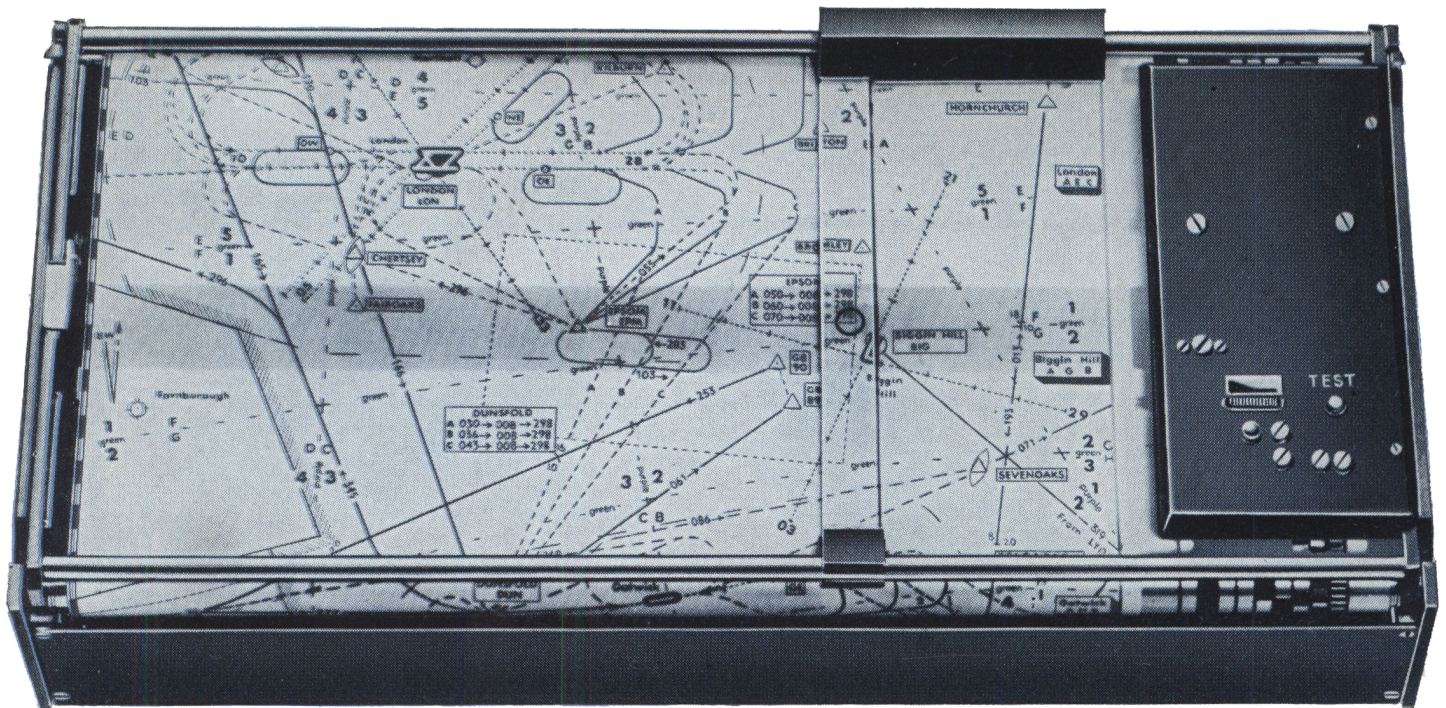
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